

The invention relates to a method of assembling a structure, particularly those structures requiring very tight tolerances. The structure may be assembled by positioning shim material on at least part of a sub-structure, curing the shim material in situ, machining the cured shim material to a desired thickness, and then assembling outer layer parts to the sub-structure such that the shim material is situated between the sub-structure and the outer parts. The shim material may be machined to different thicknesses at different locations on the sub-structure, so that, when assembled, the outer layer parts together conform to a predetermined profile. This is especially advantageous in the manufacture of airframes, where the outer layer panels must provide a smooth surface to avoid unwanted aerodynamic effects.